

101781035



CJC

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Jerome M. Eldridge et al.

Examiner: Ho, Tu-Tu

Patent No.: 7,112,841

Group Art Unit: 2818

Issue Date: September 26, 2006

Docket No: 1303.063US2

Title: GRADED COMPOSITION METAL OXIDE TUNNEL BARRIER INTERPOLY INSULATORS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

ATTN: CERTIFICATE OF CORRECTION BRANCH

Certificate

OCT 23 2006

of Correction

We are transmitting herewith the attached:

- ☒ A check in the amount of \$100.00 to cover the Certificate of Correction fee.
- ☒ Request for Certificate of Correction.
- ☒ Certificate of Correction Form - PTO-1050 (in duplicate)
- ☒ A return postcard.

Please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

Customer No: 21186

By: M L Beekman

Name: Marvin L. Beekman

Reg. No. 38,377

MLB:CMG:sj

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents and Trademarks, P.O. Box 1450, Alexandria VA 22313-1450, on this 17 day of October 2006.

KATHLEEN E. ROTHACK
Name

Kathleen E. Rothack
Signature

OCT 24 2006



Patent 7,112,841

PATENT

IN UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.: 7,112,841

Docket No: 1303.063US2

Issue Date: September 26, 2006

Patentee: Jerome M. Eldridge et al.

Customer No.: 21186

Confirmation No.: 2815

Title: GRADED COMPOSITION METAL OXIDE TUNNEL BARRIER INTERPOLY
INSULATORS

REQUEST FOR CERTIFICATE OF CORRECTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
ATTN: CERTIFICATE OF CORRECTION BRANCH

It is requested that a Certificate of Correction be issued correcting printing errors appearing in the above-identified United States patent. Two copies of the text of the Certificate in the suggested form are enclosed.

Pursuant to 1.20(a), enclosed please find a check in the amount of \$100.00.

Issuance of the Certificate of Correction would neither expand nor contract the scope of the claims as properly allowed, and re-examination is not required.

The Examiner is authorized to charge any additional fees or credit overpayment to Deposit Account No.19-0743.

Respectfully Submitted

JEROME M. ELDRIDGE ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6900

Date: 10-17-06

By: Marvin L. Beekman

Marvin L. Beekman

Reg. No: 38,377

MLB:sj

CERTIFICATE UNDER 37 CFR § 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450, on this 17 day of October 2006

KATHLEEN E. ROTHROCK
Name

Kathleen E. Rothrock
Signature

10/20/2006 MBELETE1 00000001 7112841

01 FC:1811

100.00 OP

OCT 24 2006

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (1) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the face page, in field (73), in "Assignee", in column 1, line 1, after "ID" insert
-- 83716 --.

On page 2, in field (56), under "U.S. Patent Documents", in column 1, line 61, after
"6,433,382 B1" insert -- * --.

On page 2, in field (56), under "Other Publications", in column 2, lines 6-7, delete "SiO₂,
Al₂O₃, and ZrO₃ and ZrO₂" and insert -- SiO₂, Al₂O₃, and ZrO₃ and ZrO₂ --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, line 9, delete "Al₂O₃"
and insert -- Al₂O₃ --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, line 14, delete "studies"
and insert -- studied --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, lines 24-25, delete
"Al₂O₃ and SiO₂" and insert -- Al₂O₃ and SiO₂ --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, line 27, delete "Griener"
and insert -- Greiner --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, line 33, delete "O₂" and
insert -- O₂ --, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 4, delete "Al-Al₂O₃-Al"
and insert -- Al-Al₂O₃-Al --, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 7, delete "TiO₂/Si₃N₄"
and insert -- TiO₂/Si₃N₄ --, therefor.

MAILING ADDRESS OF SENDER:

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

Atty Docket No: 1303.063US2

PATENT NO. 7,112,841

No. of additional copies



OCT 24 2006

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (2) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On page 3, in field (56), under "Other Publications", in column 1, line 27, delete "Ta2O5" and insert - - Ta₂O₅ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 30, delete "TiO2" and insert - - TiO₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 31, after "69(25)," insert - - (1996), - -.

On page 3, in field (56), under "Other Publications", in column 1, line 38, delete "36-69" and insert - - 36-39 - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 42, delete "Ti4 and H2O2" and insert - - Ti₄ and H₂O₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 52, delete "TiO2" and insert - - TiO₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 52, delete "Ti4and H2O-H2O2" and insert - - Ti₄ and H₂O-H₂O₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 54, delete "Gd2O3" and insert - - Gd₂O₃ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 55, delete "Y2O3" and insert - - Y₂O₃ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 58, delete "ALD-Al2O3" and insert - - ALD-Al₂O₃ - -, therefor.

MAILING ADDRESS OF SENDER:

PATENT NO. 7,112,841

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

No. of additional copies



Atty Docket No: 1303.063US2

OCT 24 2006

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (3) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On page 3, in field (56), under "Other Publications", in column 1, line 60, delete "Ta2O5" and insert -- Ta₂O₅ --, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 61, delete "Tox,eq<10A" and insert -- T_{ox,eq}<10A --, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 2, delete "LEss" and insert -- Less --, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 19, delete "VSLI" and insert -- VLSI --, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 22, delete "In2O3" and insert -- In₂O₃ --, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 22, delete "Physics" and insert -- Physica --, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 30, delete "Al2O3" and insert -- Al₂O₃ --, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 32, delete "ZrO2" and insert -- ZrO₂ --, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 41, delete "tilanate" and insert -- titanate --, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 48, delete "Similiar" and insert -- Similar --, therefor.

MAILING ADDRESS OF SENDER:

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

Atty Docket No: 1303.063US2

PATENT NO. 7,112,841

No. of additional copies



SEP 26 2006

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (4) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On page 3, in field (56), under "Other Publications", in column 2, line 61, delete "TiO2" and insert - - TiO₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 63, delete "TTIP/H2O" and insert - - TTIP/H₂O - -, therefor.

On page 4, in field (56), under "Other Publications", in column 1, line 9, delete "Ta2 O5" and insert - - Ta₂O₅ - -, therefor.

On page 4, in field (56), under "Other Publications" in column 2, line 6, delete "ZrO2/Zr-silicate/Si" and insert - - ZrO₂/Zr-silicate/Si - -, therefor.

On page 4, in field (56), under "Other Publications", in column 2, lines 6-7, delete "Febricated" and insert - - Fabricated - -, therefor.

In column 1, line 8, after "10/177,096" insert - - , - -.

In column 1, line 8, after "2002" insert - - , - -.

In column 1, line 10, after "09/943,134" insert - - , - -.

In column 4, line 13, delete "Electon" and insert - - Electron - -, therefor.

In column 4, line 16, delete "Electrochecm" and insert - - Electrochem - -, therefor.

In column 5, line 32, delete "an" and insert - - a - -, therefor.

In column 16, line 8, after "II" insert - - . - -.

MAILING ADDRESS OF SENDER:

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

Atty Docket No: 1303.063US2

PATENT NO. 7,112,841

No. of additional copies



NOV 24 2006

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (5) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 17, line 25, after "Process F" insert - - . - -.

In column 17, line 29, after "III" insert - - . - -.

In column 21, line 4, delete "insultator" and insert - - insulator - -, therefor.

In column 27, line 48, in Claim 17, delete "positoned" and insert - - positioned - -, therefor.

In column 27, line 59, in Claim 17, delete "havine" and insert - - have - -, therefor.

In column 32, line 11, in Claim 54, delete "wherien" and insert - - wherein - -, therefor.

In column 32, line 38, in Claim 57, delete "intergrate" and insert - - intergate - -, therefor.

In column 33, line 5, in Claim 60, delete "intergrate" and insert - - intergate - -, therefor.

In column 33, line 39, in Claim 63, delete "intergrate" and insert - - intergate - -, therefor.

In column 34, line 52, in Claim 69, after "insulator" insert - - ; wherein the intergate insulator barrier height is lower at the floating gate and is higher at the control gate to increase electron tunneling from the floating gate to the control gate - -.

MAILING ADDRESS OF SENDER:

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

Atty Docket No: 1303.063US2

PATENT NO. 7,112,841

No. of additional copies



4 2006

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (1) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the face page, in field (73), in "Assignee", in column 1, line 1, after "ID" insert
-- 83716 --.

On page 2, in field (56), under "U.S. Patent Documents", in column 1, line 61, after
"6,433,382 B1" insert -- * --.

On page 2, in field (56), under "Other Publications", in column 2, lines 6-7, delete "SiO₂,
Al₂O₃, and ZrO₃ and ZrO₂" and insert -- SiO₂, Al₂O₃, and ZrO₃ and ZrO₂ --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, line 9, delete "Al₂O₃"
and insert -- Al₂O₃ --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, line 14, delete "studies"
and insert -- studied --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, lines 24-25, delete
"Al₂O₃ and SiO₂" and insert -- Al₂O₃ and SiO₂ --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, line 27, delete "Griener"
and insert -- Greiner --, therefor.

On page 2, in field (56), under "Other Publications", in column 2, line 33, delete "O₂" and
insert -- O₂ --, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 4, delete "Al-Al₂O₃-Al"
and insert -- Al-Al₂O₃-Al --, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 7, delete "TiO₂/Si₃N₄"
and insert -- TiO₂/Si₃N₄ --, therefor.

MAILING ADDRESS OF SENDER:

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

Atty Docket No: 1303.063US2

PATENT NO. 7,112,841

No. of additional copies



OCT 24 2006

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (2) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On page 3, in field (56), under "Other Publications", in column 1, line 27, delete "Ta2O5" and insert - - Ta₂O₅ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 30, delete "TiO2" and insert - - TiO₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 31, after "69(25)," insert - - (1996), - -.

On page 3, in field (56), under "Other Publications", in column 1, line 38, delete "36-69" and insert - - 36-39 - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 42, delete "Ti4 and H2O2" and insert - - Ti₄ and H₂O₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 52, delete "TiO2" and insert - - TiO₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 52, delete "Ti4and H2O-H2O2" and insert - - Ti₄ and H₂O-H₂O₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 54, delete "Gd2O3" and insert - - Gd₂O₃ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 55, delete "Y2O3" and insert - - Y₂O₃ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 58, delete "ALD-Al2O3" and insert - - ALD-Al₂O₃ - -, therefor.

MAILING ADDRESS OF SENDER:

PATENT NO. 7,112,841

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

No. of additional copies



Atty Docket No: 1303.063US2

OCT 24 2006

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (3) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On page 3, in field (56), under "Other Publications", in column 1, line 60, delete "Ta2O5" and insert - - Ta₂O₅ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 1, line 61, delete "Tox,eq<10A" and insert - - T_{ox,eq}<10A - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 2, delete "LEss" and insert - - Less - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 19, delete "VSLI" and insert - - VLSI - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 22, delete "In2O3" and insert - - In₂O₃ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 22, delete "Physics" and insert - - Physica - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 30, delete "Al2O3" and insert - - Al₂O₃ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 32, delete "ZrO2" and insert - - ZrO₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 41, delete "tilanate" and insert - - titanate - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 48, delete "Similiar" and insert - - Similar - -, therefor.

MAILING ADDRESS OF SENDER:

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

Atty Docket No: 1303.063US2

PATENT NO. 7,112,841

No. of additional copies



OCT 24 2006

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (4) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On page 3, in field (56), under "Other Publications", in column 2, line 61, delete "TiO₂" and insert - - TiO₂ - -, therefor.

On page 3, in field (56), under "Other Publications", in column 2, line 63, delete "TTIP/H₂O" and insert - - TTIP/H₂O - -, therefor.

On page 4, in field (56), under "Other Publications", in column 1, line 9, delete "Ta₂O₅" and insert - - Ta₂O₅ - -, therefor.

On page 4, in field (56), under "Other Publications" in column 2, line 6, delete "ZrO₂/Zr-silicate/Si" and insert - - ZrO₂/Zr-silicate/Si - -, therefor.

On page 4, in field (56), under "Other Publications", in column 2, lines 6-7, delete "Febricated" and insert - - Fabricated - -, therefor.

In column 1, line 8, after "10/177,096" insert - - , - -.

In column 1, line 8, after "2002" insert - - , - -.

In column 1, line 10, after "09/943,134" insert - - , - -.

In column 4, line 13, delete "Electon" and insert - - Electron - -, therefor.

In column 4, line 16, delete "Electrochecm" and insert - - Electrochem - -, therefor.

In column 5, line 32, delete "an" and insert - - a - -, therefor.

In column 16, line 8, after "II" insert - - . - -.

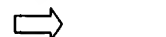
MAILING ADDRESS OF SENDER:

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

Atty Docket No: 1303.063US2

PATENT NO. 7,112,841

No. of additional copies



OCT 24 2006

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,112,841

Page (5) of 5

DATED : September 26, 2006

INVENTOR(S) : Eldridge et al.

It is certified that errors appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 17, line 25, after "Process F" insert - - . - .

In column 17, line 29, after "III" insert - - . - .

In column 21, line 4, delete "insultator" and insert - - insulator - -, therefor.

In column 27, line 48, in Claim 17, delete "positoned" and insert - - positioned - -, therefor.

In column 27, line 59, in Claim 17, delete "havine" and insert - - have - -, therefor.

In column 32, line 11, in Claim 54, delete "wherien" and insert - - wherein - -, therefor.

In column 32, line 38, in Claim 57, delete "intergrate" and insert - - intergate - -, therefor.

In column 33, line 5, in Claim 60, delete "intergrate" and insert - - intergate - -, therefor.

In column 33, line 39, in Claim 63, delete "intergrate" and insert - - intergate - -, therefor.

In column 34, line 52, in Claim 69, after "insulator" insert - - ; wherein the intergate insulator barrier height is lower at the floating gate and is higher at the control gate to increase electron tunneling from the floating gate to the control gate - - .

MAILING ADDRESS OF SENDER:

SCHWEGMAN, LUNDBERG, WOESSNER, & KLUTH, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

Atty Docket No: 1303.063US2

PATENT NO. 7,112,841

No. of additional copies

 _____

OCT 24 2006